

REMARKS/ARGUMENTS

The present Amednment accompanes a Request For Continued Examination (RCE) and serves as a further response to the final Office Action dated November 2, 2006 and to the Advisory Action dated May 24, 2007. A Notice of Appeal was previously filed on May 1, 2007 and the presently filed Amendment and RCE are being filed prior to an Appeal Brief in support thereof.

Applicant's attorneys appreciate the Examiner's thorough search and examination of the present patent application.

Claims 1, 2, 4, 5, 7, 9-16, 18, 20-22, 26-31, 33, 34, 36 and 37 were pending in final Office Action. By the present Amendment, independent claims 1, 18, 22 and 37 have been amended to further clarify the features of the present application and claims 26-31, 33-34 and 36 have been cancelled without prejudice or disclaimer.

Claims 1-5, 7, 9-16, 18 and 20-36 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. to Kaiya ("Kaiya") in view of U.S. Patent No. 5,434,615 to Matumoto ("Matumoto"). Reconsideration of this rejection is respectfully requested.

Claim 1, as amended herein, recites an endoscope imaging system including, among other things:

a camera control unit connected to the imaging apparatus,
the camera control unit comprising a synchronizing signal
generation circuit for generating a synchronizing signal, and a
video signal processing circuit for processing the image pick-up
signal at a predetermine timing based on the synchronizing signal,
to generate a video signal; and

a connector for connecting the imaging apparatus and the
camera control unit, the connector being provided to the imaging
apparatus and electrically connected to the imaging device via an
elongate signal transmission line, the connector including:

a timing signal generation circuit for generating a
periodic timing signal according to the type of the imaging
device;

a sampling circuit for sampling the image pick-up signal at a predetermined sampling timing according to the timing signal, and outputting the sampled image pick-up signal to the video signal processing circuit;

a phase delay circuit for delaying the phase of the timing signal by a delay amount according to the length of the signal transmission line; and

an imaging device drive circuit for generating a drive signal to drive the imaging device and inputting the generated drive signal to the imaging device based on the timing signal of which phase has been delayed by the phase delay circuit.

Thus, in accordance with amended claim 1, since the phase of the drive signal provided to drive the imaging device is adjusted in advance, a predetermined phase is provided to the output signals of the imaging device. The output signals of the imaging device are provided to the sampling circuit such that the sampling circuit and the video signal processing circuit always perform signal processing at a constant timing, even if the type of endoscope is changed, that is, the length of the signal transmission line, or the number of pixels utilized by the imaging device is changed. Kaiya and Matsumoto fail to disclose the features of amended claim 1.

The Examiner concedes that Kaiya does not disclose changing the phase of the drive signal to the input device, however, the Examiner contends that Matumoto discloses this feature. Applicants respectfully disagree.

As has been previously explained, Matumoto discloses providing a sampling pulse generator (19) together with a sample-and-hold (correlated double sampling (CDS)) circuit (18) and a driving circuit of a CCD (51). See Figs. 9 and 11 of Matumoto, for example. Matumoto samples and holds the video signal using a sampling pulse, which corresponds to the length of the endoscope to enable signal processing. Specifically, Matumoto discloses generating sampling pulses that are input into a sampling circuit, the CDS circuit 18, based on signals (ϕH , ϕW) for driving the imaging device. The phase of the sampling pulses is adjusted to compensate

for the phase delay of signals that are output from the imaging device. The phase delay in these signals is the result of differences between types of endoscopes.

The sampling timing in Matsumoto differs depending on the type of endoscope, and thus, the timing of a signal output from the CDS circuit and input into the image processing circuit differs depending on the type of endoscope. The image processing circuit of Matsumoto thus requires an additional adjusting circuit to adjust the processing time thereof to a timing appropriate for the type of endoscope. As noted above, the device of claim 1 avoids this.

Accordingly, it is respectfully submitted that claim 1, and the claims depending therefrom are patentable over the cited art for at least the reasons described above.

The remaining pending independent claims, 18, 22 and 37 have been amended to include similar, although not identical, language to that described above with respect to Claim 1. Thus, it is respectfully submitted that these claims are also patentable over the cited art for at least similar reasons.

The remaining claims in the application are all dependent from one or the other of the aforementioned independent claims and include their limitations. These claims also include further features which distance them even more apart from the prior art. Accordingly, all of the claims are submitted to be patentable thereover.

In light of the remarks made herein, it is respectfully submitted that claims 1, 2, 4, 5, 7, 9-16, 18, 20-22, and 37 are patentable over the cited art and are in condition for allowance. Favorable reconsideration of the present application is respectfully requested.

THIS CORRESPONDENCE IS BEING
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Respectfully submitted,



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